THE 2020 CHIEF OF ENGINEERS

Awards of Excellence

US Army Corps of Engineers ®

The Chief of Engineers Awards of Excellence recognize design and construction excellence by the U.S. Army Corps of Engineers' Districts, Centers, Laboratories, and Field Operating Activities in tandem with our customers and private sector professional partners. These projects reflect a wide range of skills, innovation and commitment to deliver quality projects for our nation and the Armed Forces. These awards demonstrate an enhanced commitment to our Communities of Practice as the basis for our technical leadership.

US Army Corps of Engineers ®

A MESSAGE FROM THE CHIEF

U.S.ARMY

The Chief of Engineers Awards of Excellence Program show our dedication and innovation in pursuit of excellence. The quality of these projects are indicative of the lasting heritage that we create for the future of our great nation and its armed forces. The excellence of projects accomplished by U. S. Army Corps of Engineers (USACE) personnel are recognized by the Chief of Engineers Awards of Excellence Program. Its intent is to simulate and inspire thoughtful engineering and construction activities to continually raise our level of excellence. Every team entered demonstrated the quality and diversity of skills USACE provides to our customers. The awardees, listed in the enclosure, are examples of the highest professional standards. I congratulate them and extend my thanks to everyone who participated and those who made this program happen.

TODD T. SEMONITE
LIEUTENANT GENERAL, US ARMY
COMMANDING

“If you are going to achieve excellence
in big things, you develop the habit in little matters.
Excellence is not an exception, it is a prevailing attitude.”

Colin Powell

2020 Awardees

HONOR AWARD
CALHOUN POINT HABITAT RESTORATION AND ENHANCEMENT
ST. LOUIS DISTRICT

HONOR AWARD
VANCILL TOWHEAD DREDGING REDUCTION AND HABITAT CREATION
ST. LOUIS DISTRICT

HONOR AWARD
CANNELTON MITER GATE REPLACEMENT
LOUISVILLE DISTRICT

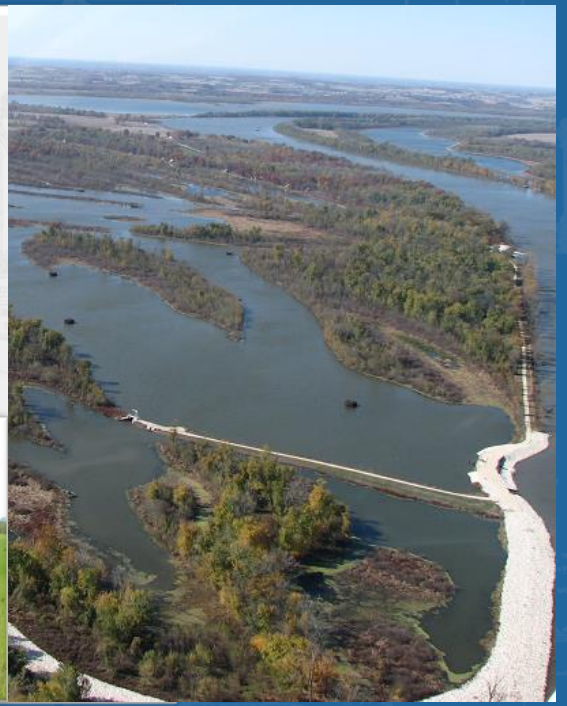
MERIT AWARD
CANINE TRAINING FACILITY US SECRET SERVICE JJ ROWLEY TRAINING CENTER
WILMINGTON DISTRICT

US Army Corps of Engineers ®

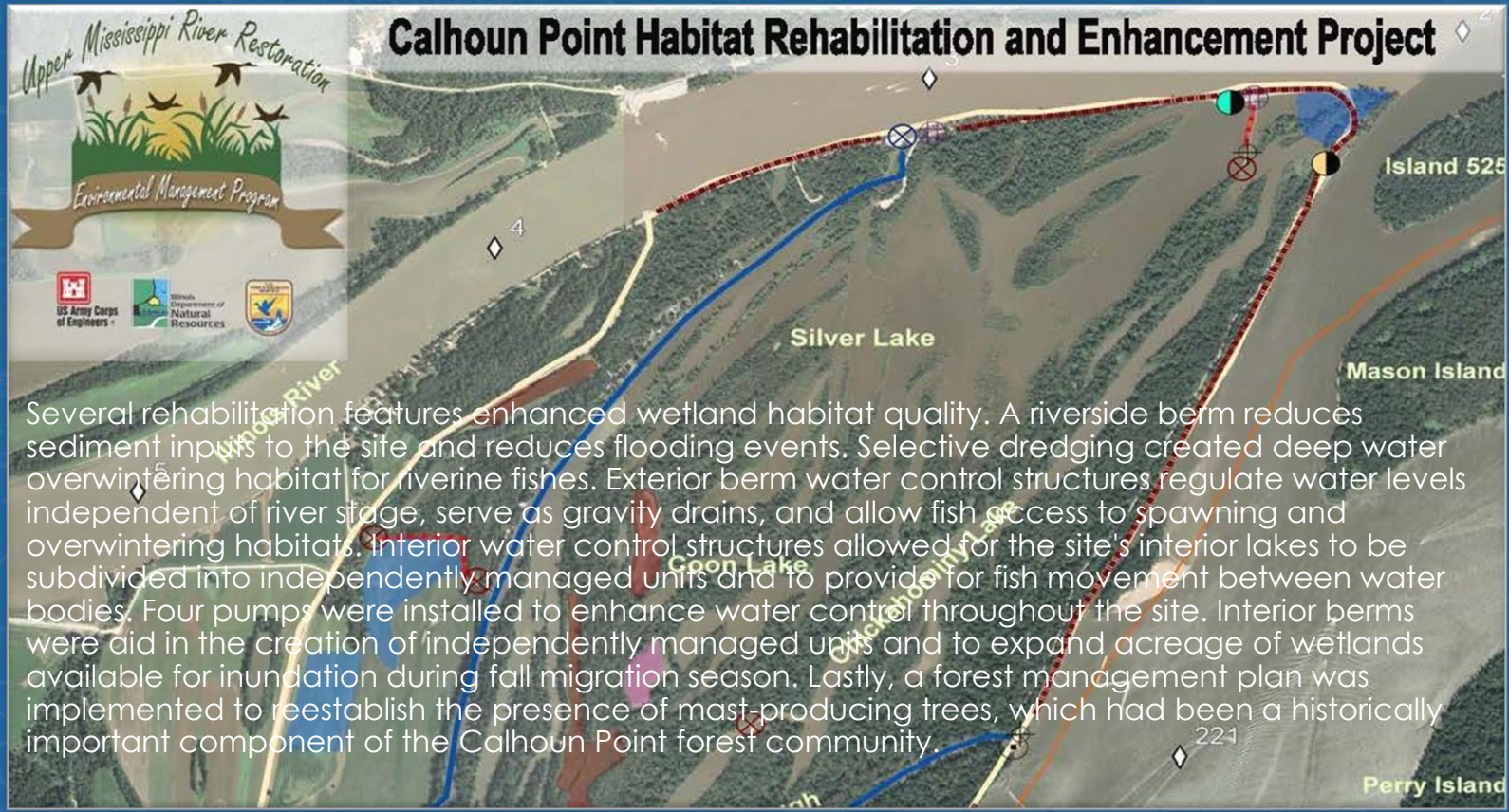
CALHOUN POINT HABITAT RESTORATION AND ENHANCEMENT

U.S.ARMY

Located at the confluence of the Mississippi and Illinois rivers, Calhoun Point provides a vital habitat link for migratory wildlife along the Mississippi River Flyway. Problems at the 2,157-acre site were sedimentation of open water habitat and water level fluctuations that contributed to the direct loss of fish and wildlife, decreased water depth, decreased wetland plants, and obstruction of fish access. The project consisted of several rehabilitation features to enhance wetland habitat quality. Disciplines included hydraulic engineering, civil engineering, geotechnical engineering, structural engineering, mechanical engineering, surveying, wildlife and fisheries biology, forestry, project management, contracting, and construction management.



HONOR AWARD



Several rehabilitation features enhanced wetland habitat quality. A riverside berm reduces sediment inputs to the site and reduces flooding events. Selective dredging created deep water overwintering habitat for riverine fishes. Exterior berm water control structures regulate water levels independent of river stage, serve as gravity drains, and allow fish access to spawning and overwintering habitats. Interior water control structures allowed for the site's interior lakes to be subdivided into independently managed units and to provide for fish movement between water bodies. Four pumps were installed to enhance water control throughout the site. Interior berms were aid in the creation of independently managed units and to expand acreage of wetlands available for inundation during fall migration season. Lastly, a forest management plan was implemented to reestablish the presence of mast-producing trees, which had been a historically important component of the Calhoun Point forest community.

The riverside berm has reduced sedimentation. Dredging has provided much needed spawning and overwintering fish habitat. The water control structures and pumps have given the customer the ability to manipulate water levels as needed for resident and migratory wildlife, to allow fish access to the site, and to more closely mimic the historic water regime. Hard-mast trees have been established to increase forest diversity.

Calhoun Point was the first of its kind to use aluminum stop-log beams in the water control structures, leading to reduced operation and maintenance. Stop-log structures allow recreational boat passage, eliminating boat pullovers and reducing project cost. Illinois Department of Natural Resources stated: "We are able to accomplish in days what took us weeks before the project. Since the project has been in place we have had four of the best years for waterfowl use since the 1950's."

US Army Corps of Engineers ®

VANCILL TOWHEAD DREDGING REDUCTION AND HABITAT CREATION PROJECT

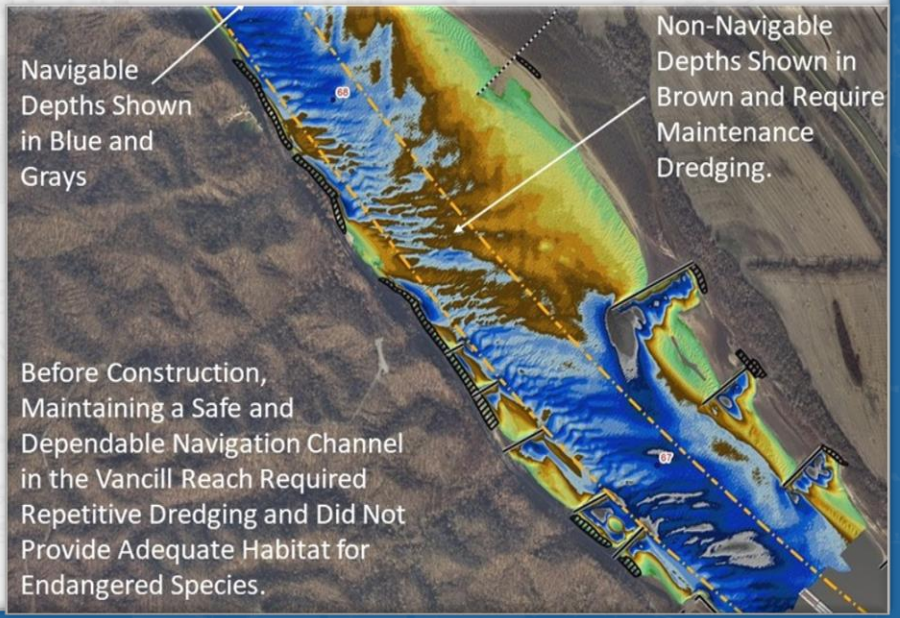
U.S. ARMY

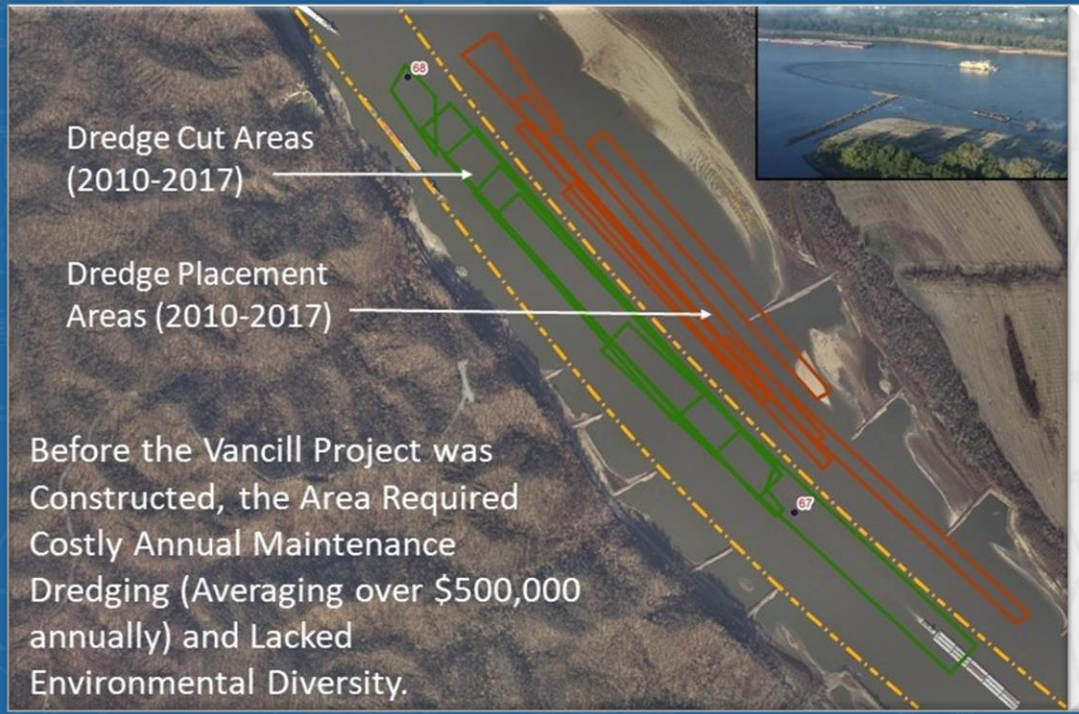
Prior to the Vancill Towhead project, the Middle Mississippi River between RM 74.0 and 67.0 required costly annual dredging to maintain navigation and keep commerce flowing. Between 2010 and 2017 USACE spent $5.2 million on dredging this seven mile reach.

Working with project partners and stakeholders, alternatives were developed to reduce dredging and enhance existing habitat. Alternatives were initially evaluated using a small scale physical model. Successful alternatives were then tested using a two-dimensional numerical model to evaluate the changes in the velocity field, changes to flow in the existing side channel, and to verify that there were no impacts to flood risk.

Innovative modifications not generally created using traditional river engineering measures include:

- Shallow, high velocity off channel habitat.
- Deep scour holes and plunge pools, overwintering habitat for aquatic species.
- Ephemeral sand bars that were abundant historically in the MMR but decreased substantially with previous channel construction activities.





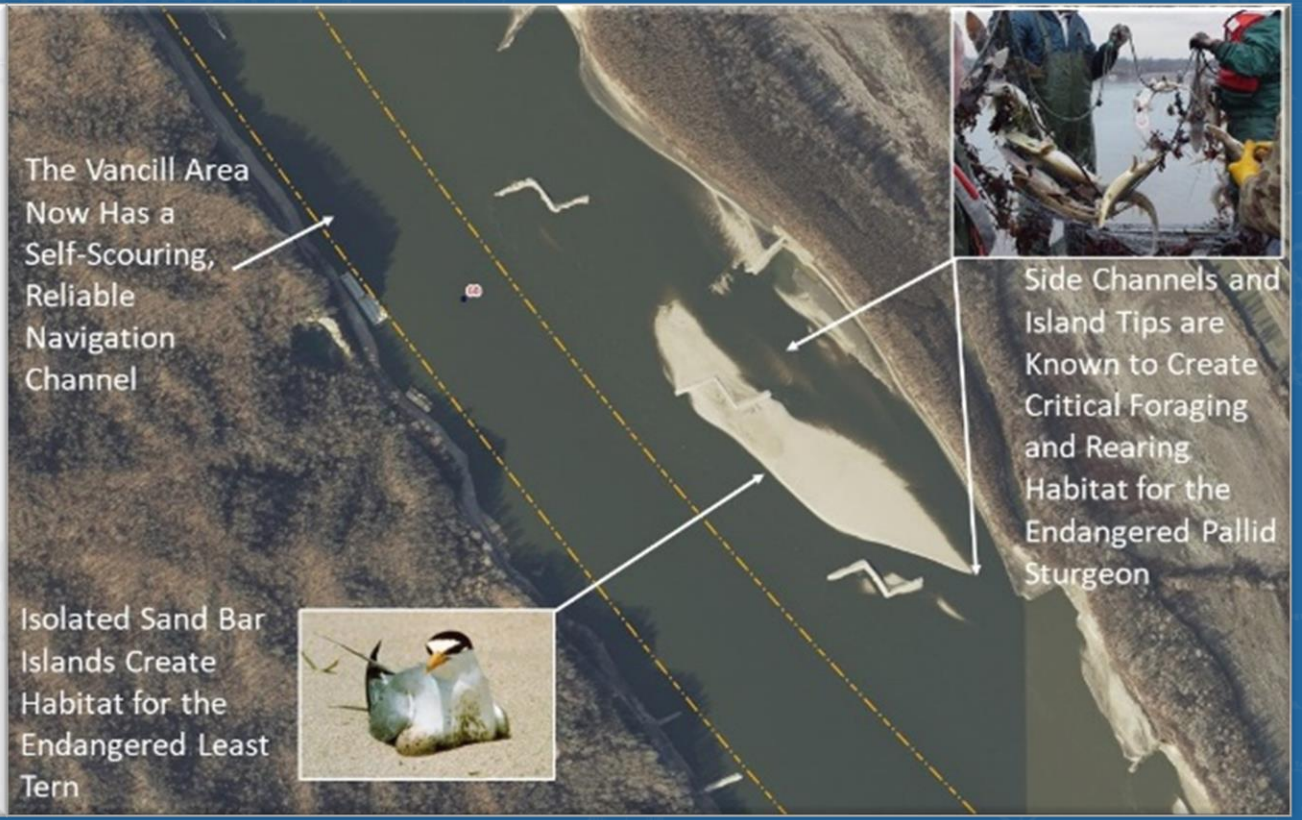
The Vancill Towhead Project has eliminated delays transiting the reach from dredging operations.

The project has achieved the desired results to the navigation channel while not impacting existing fleeting areas and exchange points that were considered very important to the navigation industry. It is expected that these benefits will continue into the future.

The Vancill Towhead Project has eliminated annual maintenance dredging in the reach saving USACE over $500,000 annually.

The Vancill Towhead Project created diverse riverine habitat that is critical for fish and birds. This includes deep scour holes and disconnected ephemeral sand bars.

The Vancill project created more habitat units than the previously constructed over the past five years.



US Army Corps of Engineers ®

CANNELTON MITER GATE REPLACEMENT

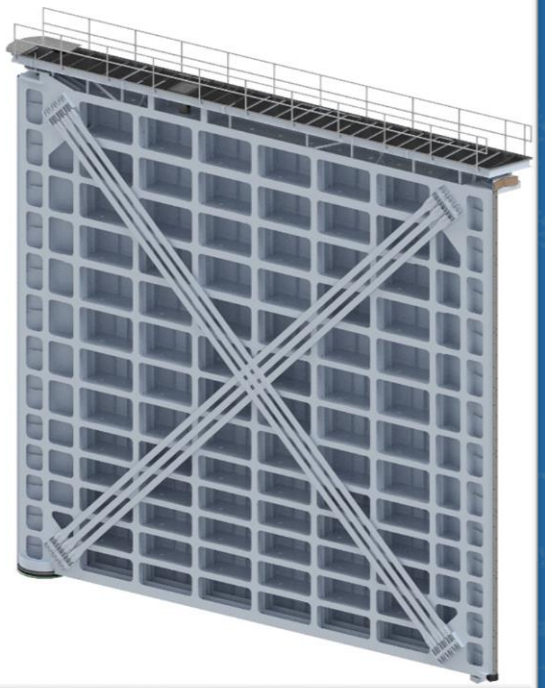
U.S.ARMY

HONOR

LOUISVILLE DISTRICT

AWARD

Cannelton was the first miter gate in Louisville District to be designed, modeled, and detailed using Autodesk Inventor.
This allowed all components to be customized and placed in the model piece-by-piece and for 2D drawings to be produced based on this 3D model. This also allowed shop drawings to be easily developed utilizing Autodesk Inventor.
The project delivery team developed a collaborative and innovative project design that will transform and modernize miter gate design and fabrication.



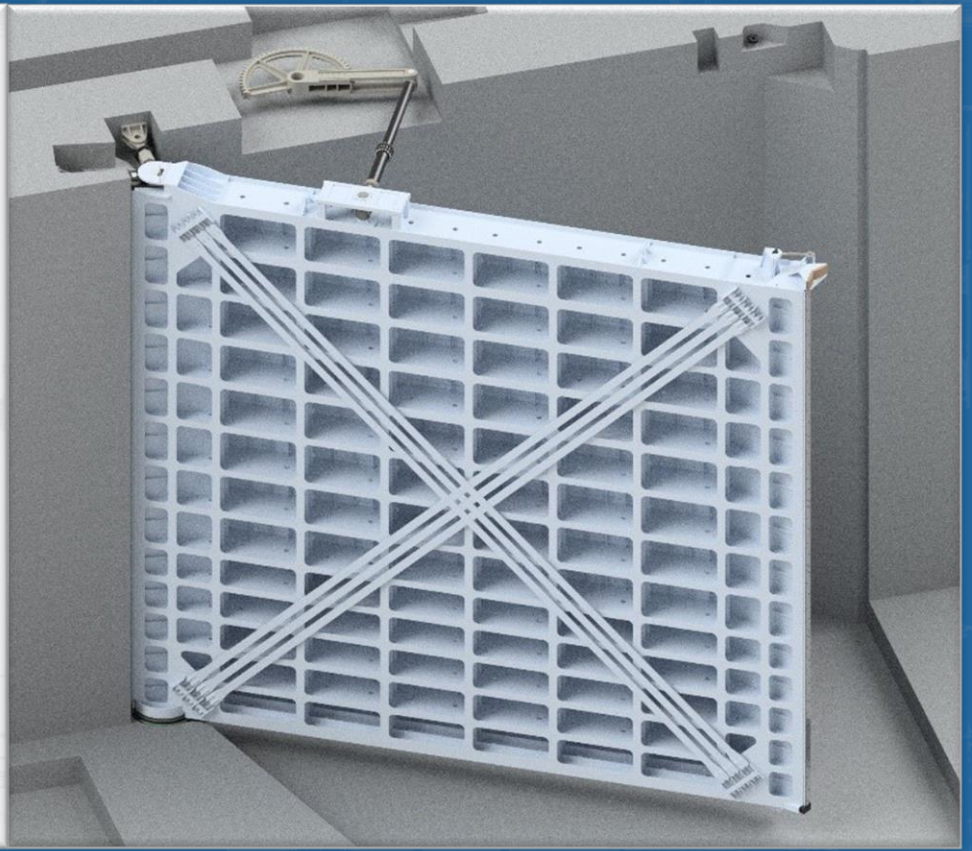
Cannelton was the first miter gate designed for standardization.

Framing radii, casting materials, and pintle geometry were standardized based on best practices from other Districts and the Miter Gate sub-CoP.

Details from Cannelton will be used in the new version of EM 1110-2-2105, Design of Hydraulic Steel Structures.

This was the first miter gate to be designed to have a 100 year service life and specifically designed for quoin wear.

Girder ends provide greater stiffness and smooth transitions between thrust plate, web stiffeners, and diaphragms.



CANINE TRAINING FACILITY, US SECRET SERVICE, JJ ROWLEY TRAINING CENTER

US Army Corps of Engineers ®

U.S.ARMY

Baltimore District provided complete planning and design services for a state-of-the-art advanced canine training facility that achieved the needs of the U.S. Secret Service (USSS).

Building Information Management (BIM) technology was used throughout the design and construction process.

Navisworks was used identify challenges and capture early design changes with USSS.

The new 20,500-square-foot Maloney Canine Building at James J. Rowley Training Center in Beltsville, Maryland, houses a training facility with administrative spaces, classrooms and odor introduction and observations rooms that support canine training requirements. A separate 36-kennel facility dedicated to care and maintenance of the canines, including space requirements for a veterinary emergency examination room, laundry room, food preparation an d storage rooms, and tactical equipment storage.

The kennel building benefits from plenty of natural light from skylights and strategically placed windows that prevent canines from seeing other canines in the exercise yard. A 1-acre secured yard was upgraded to provide advanced training capacity for the canines, while two new breakout yards will flank the building to provide extra areas for relief and relaxation.

“The three most important ways to lead people are: by example… by example… by example.”

Albert Schweitzer

We appreciate and express our thanks to the following individuals for their contributions supporting this awards program:

Eric Mucklow

Debra Biedenharn

Drew Anderson

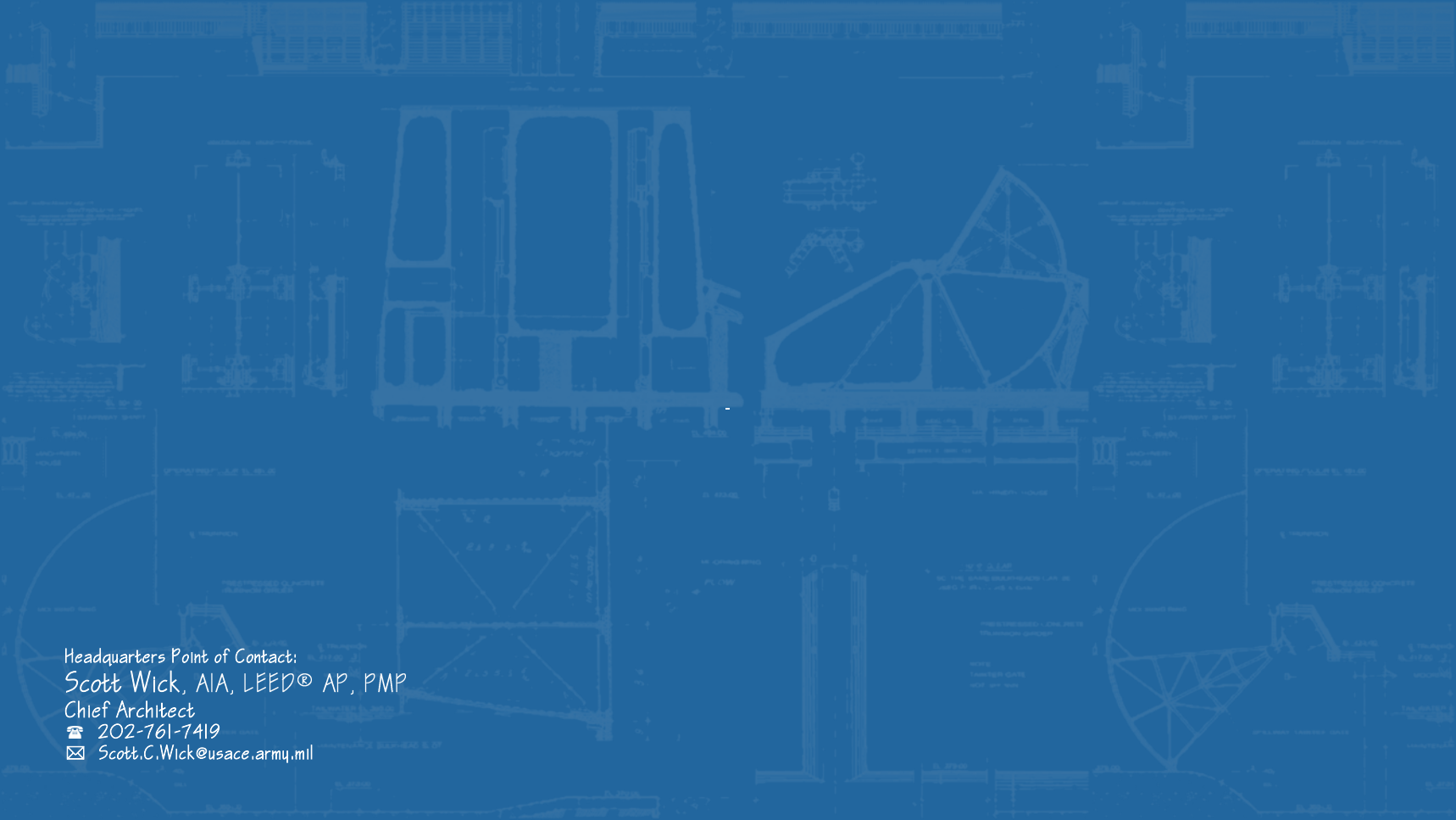
Billy Tindell

Scott Wick

To submit an excellent project for the next round of awards, go to:

https:\\ceawards.erdc.dren.mil

- Click on Contact Us to request an account.



Headquarters Point of Contact:
Scott Wick, AIA, LEED® AP, PMP
Chief Architect
☎ 202-761-7419
✉ Scott.C.Wick@usace.army.mil